

REMARKS

The present amendment is submitted in response to the Office Action dated August 29, 2003, which set a three-month period for response, making this amendment due by November 29, 2003, a Saturday, or by Monday, December 1, 2003.

Claims 7-12 are pending in this application.

In the Office Action, claims 1-6 were rejected under 35 U.S.C. 112, first paragraph, for not complying with the enablement requirement. Claims 2-6 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite. Claim 1 was rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 3,192,551 to Appel. Claims 2-6 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Appel in view of U.S. Patent No. 5,875,672 to Fourie et al.

The Applicants first wish to point out that in the Simultaneous Amendment filed on July 26, 2001, original claims 1-6 were canceled and new claims 1-6 were added. However, new claims 1-6 should have been added as new claims 7-12. In this amendment, then, the claims have been amended to reflect the corrected claim numbering.

Also in this amendment, the specification has been amended to add appropriate headings and to delete reference to the claims.

Claims 7-12 were amended to replace "characterized in that" with "wherein" and to address the rejections under Section 112, second paragraph by

providing proper antecedent basis for the noted terms and other terms not specifically mentioned in the Office Action.

With regard to the rejection of claims 7-12 for lack of enablement under Section 112, the Applicants respectfully disagree that the specification fails to provide adequate disclosure relating to the quasi constant course of strength along the length of the back, when the back is of variable thickness along the length of the back. In other words, the Examiner states he does not understand how a uniform hardness is provided along the length, while also a uniform strength exists despite variable thickness.

The Applicants respectfully direct the Examiner's attention to the specification on page 1, line 30 through page 2, line 9, which provides the following disclosure:

According to a preferred embodiment of the invention, the spring strip back is heated to the required hardening temperature in a continuous operation, then quenched and, to temper it, heated to a tempering temperature in such a way that it does not reach the tempering temperature until immediately before leaving the tempering zone. ***In this fashion, the largely constant course of strength is achieved reliably and reproducibly in the continuous operation.*** Due to the fact that the tempering is not reached until "as late as possible", the dwell time of the spring strip material at the tempering temperature is extremely low and the final hardness of the spring strip back is determined solely by the tempering temperature, while the dwell time does not influence the final hardness. (emphasis added)

The Applicants further direct the Examiner to page 4, lines 8-16, where it is provided:

The spring strip back 10 is refined and, despite its varying strip thickness d along the length of the back l, exhibits a nearly constant course of strength or hardness (H) along the length of the strip l. In order to reproducibly ensure this quasi constant course of hardness using production engineering, the spring strip back 10 is refined (hardened and tempered)

in a continuous operation in such a fashion that it is heated to a required hardening temperature, then quenched, and to temper it, heated to a tempering temperature in such a way that it does not reach the tempering temperature until immediately before it leaves the tempering zone.

Since the patent application is directed to a practitioner of ordinary skill in the art, details which would be known to such a practitioner regarding hardening and tempering of spring steel need not be included in the specification. From the teachings of the present application, the practitioner could be lead to rework the present invention, having received the detailed specifications of performing tempering of the already hardened steel, such that the tempering temperature is reached as late as possible, namely, first directly before leaving the tempering zone. In order to realize the tempering temperature "as late as possible", in addition, the practitioner would understand from the disclosure of the present application to subdivide the tempering zone into temperature zones and to guide the spring strip through the respective temperature zone (page 4, line 29 through page 5, line 5). Therefore, from the above portions of the description, a practitioner of ordinary skill in the art should be able to follow the specifications and achieve the disclosed results.

The Applicants further suggest the confusion relating to the terms "hardness" and "strength" may be related to the interchanging of the term "strength" with the term relating to the spring constant of the support element in the Office Action. Hardness and strength are pure material qualities, which, for example, are provided from the type and composition of the grain of the steel. The spring constant, in contrast, is additionally dependent on the form and the

dimensions of the support element. A definition of strength is found in a text book entitled, "Fachkunde für metallverarbeitende Berufe" (translated to "Expertise for metal-processing Professions") (1974). Copies of relevant pages are attached here to.

Strength is defined in this reference as the highest possible inner resistance of a material against an outer load (page 10, Section 1.1.8.2). According to this definition, the term "hardness" also falls under the term "strength", because the hardness is defined as the "resistance, which a body opposes the permeation or penetration of another body" (page 8, Section 1.1.1.4).

In the present application, the general idea is that the support element can be bent particularly well with a varying cross-section over its length, if it has a constant strength or hardness course along this length. The support element that becomes narrow at the ends guarantees in this manner that the spring constant is define smaller, than it, the spring is softer, so that the support element can be curved more strongly toward the ends. This stronger bending is

advantageous in order to wipe windows, which are curved on their outer regions.

If the spring constant did not decline, the risk exists that the wiper blade would arc over the window, similar to an arch between the space point of the wiper arm on the connection element and the end of the support element. First, when the strength or hardness course is constant, it is possible to adjust the pressure distribution with provided cross sectional tapering over the bent course of the

support element. If the strength or hardness is not constant, this must be taken into consideration in the curve or bending course.

The basis of claiming the strength and hardness course as only quasi constant is that this course in real life always underlies tolerant oscillations, as is also shown in Figures 3 through 5.

Regarding the substantive rejection of the claims, the Examiner has rejected claim 1 as being anticipated by the Appel reference. The Applicants respectfully disagree. Appel has relation to material parameters. Rather, Appel relates merely to different forms and curves or bendings of its spring bars. An interpretation of the type that for the lack of any embodiments, the spring bars of Appel must contain the limitations of the present invention cannot be maintained. According to the defined standards for finding a reference as anticipatory of a claimed invention, a prior art reference anticipates a claim only if the reference discloses, either expressly or inherently, every limitation of the claims. Absence from the reference of any claimed element negates anticipation. *Row v. Dror*, 42 USPQ 2d 1550, 1553 (Fed. Cir. 1997) (quoting *Kloster Speedsteel AB v. Crucible, Inc.*, 230 USPQ 81, 84 (Fed. Cir. 1986)).

Because Appel provides no suggestion or disclosure about the strength or hardness course of the spring bar, these features are also not provided. Thus, claim 7 is patentable under Section 102 over this reference.

Claim 7 also is not obviously over the Appel reference, since, as the Examiner himself states, for one, in Appel, the hardness of the material is independent from the width or thickness of the spring bar and for another, the

spring characteristic of the back strip is directly affected also by the hardness. As shown in Figure 3 of the present application, the state of the art has a hardness course, which is correlated with the thickness course of the spring bar. This is manufacturing-related, so long as it is not explicitly attended to. At the point in time at which Appel developed his invention – 1964 – such details would not be given any consideration, so that these types of wiper blades never were brought to the market.

The secondary reference to Fourie shows the method steps of unrolling the spring band from a coil over the rollers, hardening, tempering, stretching and cutting. In the area of tempering, however, Fourie teaches in a different direction from that of the present invention. In Fourie's column 3, line 62 through column 4, line 2, and further in lines 50-54, a tempering zone 34 is described in combination with a recrystallization station 36, which must run through the already rolled spring band after hardening.

In contrast to the teachings of the present invention, with Fourie, it is proposed to vary the energy supply to the tempering zone 34, analogously to the energy supply to the hardening station. Thus, it is already impossible that the necessary tempering temperature can be achieved first shortly before leaving the tempering zone. In addition, the practitioner recognizes that Fourie sees tempering more as a sliding process, because the heating station within the tempering station follows the recrystallization station.

Thus, these features lead the practitioner away from the teachings of the present invention, because the present invention proposes not general

recrystallization. Therefore, the combination of the two references cannot make obvious the present invention. The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. *In re Fritch*, 23 USPQ 2d 1780, 1783-84 (Fed. Cir. 1992).

The present invention is based on two interwoven ideas. First, a flat beam window wiper achieves a high wiper quality with a variable strip thickness over the back length when the strength or hardness course is quasi constant along the back length, whereby it is advantageous when this strength or hardness course is produced not via hardening but via tempering, such that the spring strip pressure in the pass-through method is tempered so that it achieves the tempering temperature first directly before leaving the tempering zone. Already, the technical teaching of the first idea represents a patentable invention over the cited references. The combination of both ideas, which are contained in claims 7 and 8, is not suggested or disclosed in either reference or in the proposed reference combination. Indeed, the technical teachings of Fourie lead in a different direction away from the present invention.


For the reasons set forth above, the Applicants respectfully submit that claims 7-12 are patentable over the cited references. The Applicants further request withdrawal of the rejections under 35 U.S.C. 102 and 103 and reconsideration of the claims as herein amended.

Applicant wishes to call to the attention of the Examiner co-pending serial number 09/622,780 which has been filed by the same assignee and which contains similar subject matter.

In light of the foregoing arguments in support of patentability, the Applicants respectfully submit that this application stands in condition for allowance. Action to this end is courteously solicited.

Should the Examiner have any further comments or suggestions, the undersigned would very much welcome a telephone call in order to discuss appropriate claim language that will place the application into condition for allowance.

Respectfully submitted,



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